Connecting via Winsock to STN

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LOGINID:SSSPTA1712KLP

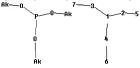
PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

FILE 'HOME' ENTERED AT 19:38:35 ON 07 DEC 2008

=> file registry

Uploading C:\Program Files\Stnexp\Queries\035\035a.str



chain nodes : 1 2 3 4 5 6 7 chain bonds : 1-2 1-3 1-4 2-5 3-7 4-6 exact/norm bonds : 1-2 1-3 1-4 2-5 3-7 4-6

Match level : 1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS

L1 STRUCTURE UPLOADED

=> s L1 sss full FULL SEARCH INITIATED 19:39:04 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 638449 TO ITERATE

100.0% PROCESSED 638449 ITERATIONS (2 INCOMPLETE) 40861 ANSWERS SEARCH TIME: 00.00.09

L2 40861 SEA SSS FUL L1

.

Uploading C:\Program Files\Stnexp\Queries\035\035b.str

chain nodes:
1 2 3 4 5 8 9 11 13 14 15
chain bonds:
1-2 1-8 1-9 1-11 2-3 4-5 11-13 11-14 11-15
exact/norm bonds:
1-8 1-9 2-3 4-5 11-13 11-14
exact bonds:
1-8 1-9 1-1 11-15

G1:Ak,[*1]

G2:H,Ak

Match level: 1:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 9:CLASS 11:CLASS 13:CLASS 14:CLASS 15:CLASS

L3 STRUCTURE UPLOADED

-> s L3 sss full FULL SEARCH INITIATED 19:39:38 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 27535 TO ITERATE

100.0% PROCESSED 27535 ITERATIONS SEARCH TIME: 00.00.01

423 ANSWERS

100

L4 423 SEA SSS FUL L3

=> Uploading C:\Program Files\Stnexp\Queries\035\035c.str

chain nodes :

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1 2 3 4 5 8 9 11 13 14 15 16 17 18 19 20
chain bonds :
1-2 1-8 1-9 1-11 2-3 4-5 11-13 11-14 11-15 15-16 15-17 15-18 17-19 18-
20
exact/norm bonds :
1-8 1-9 2-3 4-5 11-13 11-14 15-16 15-17 15-18 17-19 18-20
exact bonds :
1-2 1-11 11-15
G1:Ak,[*1]
G2:H,Ak
Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 9:CLASS 11:CLASS 13:CLASS
14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS
L5 STRUCTURE UPLOADED
=> s L5 sss full
FULL SEARCH INITIATED 19:40:11 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 4472 TO ITERATE
100.0% PROCESSED 4472 ITERATIONS
                                                          24 ANSWERS
SEARCH TIME: 00.00.01
           24 SEA SSS FUL L5
1.6
=> file caplus
=> d his
    (FILE 'HOME' ENTERED AT 19:38:35 ON 07 DEC 2008)
    FILE 'REGISTRY' ENTERED AT 19:38:44 ON 07 DEC 2008
              STRUCTURE UPLOADED
1,2
         40861 S L1 SSS FULL
L3
              STRUCTURE UPLOADED
L4
          423 S L3 SSS FULL
L.5
              STRUCTURE UPLOADED
L6
           24 S L5 SSS FULL
    FILE 'CAPLUS' ENTERED AT 19:40:22 ON 07 DEC 2008
=> s L2
L7
      62589 L2
=> s L4
L8
        613 L4
=> s L6
L9
          26 L6
=> d his
    (FILE 'HOME' ENTERED AT 19:38:35 ON 07 DEC 2008)
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FILE 'REGISTRY' ENTERED AT 19:38:44 ON 07 DEC 2008
               STRUCTURE UPLOADED
         40861 S L1 SSS FULL
1.3
               STRUCTURE UPLOADED
T.4
           423 S L3 SSS FULL
               STRUCTURE UPLOADED
L_5
L6
             24 S L5 SSS FULL
    FILE 'CAPLUS' ENTERED AT 19:40:22 ON 07 DEC 2008
          62589 S L2
           613 S T.4
T.R
1.9
             26 S L6
=> s L7 (L) L8
            0 L7 (L) L8
=> s L7 and L8
           16 L7 AND L8
=> s L11 and L9
L12
           6 L11 AND L9
=> d L12 1-6 ibib so abs hitstr
L12 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:
                        2006:273682 CAPLUS Full-text
DOCUMENT NUMBER:
                        144:333109
TITLE:
                        Hydrophobic treatment of substrates with
                        phosphonate-modified polysiloxanes
INVENTOR(S):
                        Sandmeyer, Frank; Bockholt, Andreas; Gollwitzer,
                        Leonhard
PATENT ASSIGNEE(S):
                        Wacker Chemie A .- G., Germany
                        Ger. Offen., 9 pp.
SOURCE:
                        CODEN: GWXXBX
DOCUMENT TYPE:
                        Patent
LANGUAGE:
                        German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
     PATENT NO.
                       KIND DATE APPLICATION NO. DATE
     DE 102005046704
                        A1
                               20060323 DE 2005-102005046704 20050929
PRIORITY APPLN. INFO.:
                                          DE 2005-102005046704 20050929
   Ger. Offen., 9 pp.
     CODEN: GWXXBX
AB
     Phosphonate-modified polysiloxanes prepared by reacting phosphonate-group-
     containing silanes alone or with alkoxysilanes and water are useful as
     hydrophobizing agents for cements and concrete. Thus,
     diethylphosphonatomethyltrimethoxysilane-
     methyl(dimethoxy)(aminopropylaminoethyl)silane copolymer prepared by
```

fibers with d. 200 g/m2 providing the surfaces with water-repellent properties.

II 122-52-1, Triethylphosphite 5926-26-1, Chloromethyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(phosphonate-modified polysiloxane precursor; phosphonate-modified polysiloxanes prepared by reacting of phosphonate-group-containing silanes alone or with alkoxysilanes and water used as hydrophobizing agents for

cohydrolysis of the two monomers was used coating (brushing) onto cement

cements and concrete)

RN 122-52-1 CAPLUS

CN Phosphorous acid, triethyl ester (CA INDEX NAME)

RN 5926-26-1 CAPLUS

CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)

IT 880128-19-3P 880128-21-2P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (phosphonate-modified polysiloxanes prepared by reacting of phosphonate-group-containing silanes alone or with alkoxysilanes and water used as hydrophobizing agents for cements and concrete)

RN 880128-19-8 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8 CMF C8 H21 O6 P Si

CM 2

CRN 1185-55-3 CMF C4 H12 O3 Si

RN 880128-21-2 CAPLUS

CN Phosphonic acid, [(trimethoxysilyl)methyl]-, diethyl ester, polymer with trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8 CMF C8 H21 O6 P Si

CM 2

CRN 2487-90-3 CMF C3 H10 O3 Si

MeO_SiH_OMe

IT 880128-20-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(phosphonate-modified polysiloxanes prepared by reacting of phosphonate-group-containing silanes alone or with alkoxysilanes and water used as hydrophobizing agents for cements and concrete)

RN 880128-20-1 CAPLUS

Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with N-[2-(dimethoxymethylsily1)ethy1]-1,3-propanediamine (9CI) (CA INDEX NAME)

CM 1

CN

CRN 827615-75-8 CMF C8 H21 O6 P Si

CRN 160888-91-5 CMF C8 H22 N2 O2 Si

L12 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2006:117915 CAPLUS Full-text

DOCUMENT NUMBER: 144:192378

TITLE: Method for producing phosphate silanes

Bockholt, Andreas; Brader, Leonhard INVENTOR(S):

PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie G.m.b.H., Germany

SOURCE: PCT Int. Appl., 15 pp.

CODEN: PIXXD2 DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION: DATENT NO.

CODEN: PIXXD2

									APPLICATION NO.											
	2006012952																20050			
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BE	3, B	G,	BR,	BW,	BY,	BZ	, CA,	CH,		
		CN,	CO,	CR,	CU,	CZ,	DK,	DM,	DZ,	EC	, E	Ε,	EG,	ES,	FI,	GB	, GD,	GE,		
		GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JE	, K	E,	KG,	KM,	KP,	KR	, KZ,	LC,		
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG	3, M	ĸ,	MN,	MW,	MX,	MZ	, NA,	NG,		
		NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO), R	U,	SC,	SD,	SE,	SG	, SK,	SL,		
		SM,	SY,	ΤJ,	TM,	TN,	TR,	TT,	TZ,	UP	A, U	G,	US,	UZ,	VC,	VN	, YU,	ZA,		
		ZM,	ZW																	
	RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE	Ε, Ε	s,	FI,	FR,	GB,	GR	, HU,	IE,		
		IS,	IT,	LT,	LU,	MC,	NL,	PL,	PT,	RO), S	E,	SI,	SK,	TR,	BF	, вJ,	CF,		
		CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MF	R, N	E,	SN,	TD,	TG,	BW	, GH,	GM,		
		KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ	z, U	G,	ZM,	ZW,	AM,	AZ	, BY,	KG,		
		KZ,	MD,	RU,	TJ,	TM														
DE	1020	0403	6722		A1		2006	0323		DE	200	4-	1020	0403	6722		20040	729		
EP	1773	852			A1		2007	0418		ΕP	200	5-	7552	97			20050	623		
	R:	BE,	DE,	FR,	GB,	NL														
CN	1993	372			A		2007	0704		CN	200	5-	8002	5683			20050			
JP	2008	5081	97		T		2008	0321		JΡ	200	7-	5229	35			20050	623		
US	2008 2008	0045	735		A1		2008	0221		US	200	7-	5725	36			20070	123		
	2007																20070			
	8234																			
IORIT										DE	200	4-	1020	0403	6722	A.	20040	729		
										WO	200	5-	EP68	16	1	W	20050	623		
HER SO	OURCE	(S):			CAS	REAC	T 14	4:19	2378	: 1	1ARP	ΑТ	144	:192	378					
PC:																				

The invention relates to a method for producing phosphonate silanes, Rln(X)3-AB nSiR3-PO(OR4)(OR5), consisting in converting a halogen- containing silane,

 $R\ln(x)3-nsi83Hal$, with phosphites, P(OR4)(OR5)(OR6) (R1 = optionally halogensubstituted hydrocarbon radical with 1-20 carbon atoms and also represents hydrogen; X = hydrolyzable group or OH; R3 = possibly halogen-substituted alkyl rest with 1-10 carbon atoms; R4, R5, and R6 = possibly halogen-substituted hydrocarbon radical with 1-20 carbon atoms; Hal = halogen atom; n = 0-3). During the reaction, a part of reaction mixture is continuously or repeatedly withdrawn and is returned to the rest of the reaction mixture after the already formed product is removed therefrom. Thus, reaction of chloromethyldimethoxymethylsilane with P(ORt)3 at 100° for 2h at 350 mbar gave title diethylbosphonatomethyldimethoxymethylsilane for the rest of the reaction of chloromethyldimethoxymethylsilane with P(ORt)3 at 100° for 2h at 350 mbar gave title diethylbosphonatomethyldimethoxymethylsilane

IT 122-52-1, Triethyl phosphite 2212-11-5,

(Chloromethyl)dimethoxymethylsilane 5926-36-1, (Chloromethyl)trimethoxysilane 18143-33-4,

(Chloromethyl) methoxydimethylsilane (Chloromethyl) methoxydimethylsilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(method for preparation of phosphonate silanes via high pressure reaction of phosphites with halo containing silane)

RN 122-52-1 CAPLUS

CN Phosphorous acid, triethyl ester (CA INDEX NAME)

RN 2212-11-5 CAPLUS

CN Silane, (chloromethyl)dimethoxymethyl- (CA INDEX NAME)

RN 5926-26-1 CAPLUS

CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)

RN 18143-33-4 CAPLUS

CN Silane, (chloromethyl) methoxydimethyl- (CA INDEX NAME)

- IT 827615-73-6P 827615-74-7P 827615-75-8P
 - RL: SPN (Synthetic preparation); PREP (Preparation)

(method for preparation of phosphonate silanes via high pressure reaction of phosphites with halo containing silane)

- RN 827615-73-6 CAPLUS
- CN Phosphonic acid, P-[(dimethoxymethylsilyl)methyl]-, diethyl ester (CA INDEX NAME)

- RN 827615-74-7 CAPLUS
- CN Phosphonic acid, [(methoxydimethylsilyl)methyl]-, diethyl ester (9CI) (CA INDEX NAME)

- RN 827615-75-8 CAPLUS
- CN Phosphonic acid, P-[(trimethoxysilyl)methyl]-, diethyl ester (CA INDEX NAME)

- REFERENCE COUNT:
- 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L12 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2005:451447 CAPLUS Full-text

DOCUMENT NUMBER:

2005:45144/ CAPLUS <u>Full-te</u>: 142:482806

TITLE:

Production of organosiloxanes modified by phosphonate ester groups

INVENTOR(S): Schaefer, Oliver; Luckas, Hans-Joachim

PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie G.m.b.H.,

Germany SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.							KIND DATE					ION :						
	WO 2005047368						-	2005	0526		WO 2			20041028					
		W:	ΑE,	AG,	AL,	AM,	AT,	AU, AZ,		BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,	
			CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
			GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	KZ,	LC,	
			LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI,	
	NO, NZ, OM,		OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC.	SD,	SE,	SG,	SK,	SL,	SY,			
	TJ, TM, TN,		TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM.	ZW				
		RW: BW, GH, GM, KE, LS, MW, MZ,		MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,						
			AZ.	BY.	KG.	KZ.	MD.	RU.	TJ.	TM.	AT.	BE.	BG.	CH.	CY.	CZ.	DE,	DK.	
			EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,	IT,	LU,	MC,	NL,	PL,	PT,	RO,	SE,	
			SI.	SK.	TR.	BF.	BJ.	CF.	CG.	CI.	CM.	GA,	GN.	GO.	GW.	ML.	MR.	NE.	
				TD.															
	DE	1035	1803			A1		2005	0609	DE 2003-10351803						20031106			
	EP	1678	240			A1		2006	0712	EP 2004-790971						20041028			
		R:	BE,	DE,	FR,	GB,	NL												
	CN	1875	053			A		2006	1206		CN 2	2004-	8003	2721		2	0041	028	
	JP	2007	5123	95		T		2007	0517		JP 2	2006-	5387	08					
	US	2007	0167	597		A1		2007	0719		US 2006-595701					20060505			
PRIOR	RIORITY APPLN. INFO.:										DE 2	2003-	1035	1803		A 2	0031	106	
									WO 2	2004-	EP12	201	1	W 2	0041	028			

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

AB The title polymers, which can be prepared readily using com. available compds., are prepared by the reaction of phosphonate esters bearing silyl groups with siloxanes. Adding 0.3 mol (chloromethyl)dimethoxymethylsilane over 3 h to 0.6 mol P(OEt)3 at 140° with strong stirring, heating at 170° for 30 min, and distilling excess P(OEt)3 in vacuo gave 55.6 g di-Et [(dimethoxymethylsilylmethyl]phosphonite (I). Adding 220 g polydimethylsiloxane diol (mol. weight 1100) over 10 min to 26.1 g I and 0.5% iso-Pr phosphate (catalyst) at 60° with strong stirring and heating at 80° for 2 h gave 239 g phosphonate group-containing block copolymer with number-average mol. weight 2500.

IT 852213-16-2P 852213-17-3P 852213-18-4P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (actual and assumed monomers; production of organosiloxanes modified by phosphonate ester groups)

RN 852213-16-2 CAPLUS

CN Phosphonic acid, [(dimethoxymethylsilyl)methyl]-, diethyl ester, polymer with dimethylsilanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 827615-73-6

CMF C8 H21 O5 P Si

CM 2

CRN 1066-42-8 CMF C2 H8 O2 Si

RN 852213-17-3 CAPLUS

CN Phosphonic acid, [(methoxydimethylsilyl)methyl]-, diethyl ester, polymer with dimethylsilanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 827615-74-7 CMF C8 H21 O4 P Si

CM 2

CRN 1066-42-8 CMF C2 H8 O2 Si

- RN 852213-18-4 CAPLUS
- CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with dimethylsilanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8 CMF C8 H21 O6 P Si

CM 2

CRN 1066-42-8 CMF C2 H8 O2 Si

IT 827615-73-6P 827615-74-7P 827615-75-8P

RL: IMF (Industrial manufacture); PREP (Preparation) (preparation)

RN 827615-73-6 CAPLUS

CN Phosphonic acid, P-[(dimethoxymethylsilyl)methyl]-, diethyl ester (CA INDEX NAME)

RN 827615-74-7 CAPLUS

CN Phosphonic acid, [(methoxydimethylsily1)methyl]-, diethyl ester (9CI) (CA INDEX NAME)

$$\texttt{EtO} = \underbrace{\overset{\circ}{\underset{\mathsf{DET}}{\mathsf{CH}}}}_{\mathsf{CH}_2} = \underbrace{\overset{\circ}{\underset{\mathsf{Me}}{\mathsf{Me}}}}_{\mathsf{Me}}$$

RN 827615-75-8 CAPLUS

CN Phosphonic acid, P-[(trimethoxysilyl)methyl]-, diethyl ester (CA INDEX NAME)

Eto-
$$\bigcup_{D=+}^{O}$$
-CH₂- \bigcup_{DMe}^{OMe} -OMe

IT 122-52-1, Triethyl phosphite 2212-11-5,

(Chloromethyl) dimethoxymethylsilane 5936-26-1, (Chloromethyl) trimethoxysilane 18143-33-4,

 $({\tt Chloromethyl})\,{\tt methoxydimethylsilane}$

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of tri-Et phosphite with (chloromethyl)silanes)

RN 122-52-1 CAPLUS

CN Phosphorous acid, triethyl ester (CA INDEX NAME)

RN 2212-11-5 CAPLUS

CN Silane, (chloromethyl)dimethoxymethyl- (CA INDEX NAME)

RN 5926-26-1 CAPLUS

CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)

RN 18143-33-4 CAPLUS

CN Silane, (chloromethyl) methoxydimethyl- (CA INDEX NAME)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD, ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2005:58269 CAPLUS Full-text

DOCUMENT NUMBER: 142:156528

TITLE: Method for producing phosphonate-modified silicones. INVENTOR(S): Schaefer, Oliver; Luckas, Hans-Joachim; Rachl, Sandra

PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie GmbH,

Germany SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2 DOCUMENT TYPE: Patent

LANGUAGE: German FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	TENT	NO.			KIN	D	DATE			APP	LICAT		DATE				
WC	2005	0055	A1		2005	0120		WO	2004-		20040701						
		W: AE, AG, AL, AM, AT, AU, AZ															
		CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ	, EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS	, JP,	KE,	KG,	KP,	KR,	ΚZ,	LC,
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG	, MK,	MN,	MW,	MX,	MZ,	NA,	ΝI,
		NO,	ΝZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU	, SC,	SD,	SE,	SG,	SK,	SL,	SY,
											, UZ,						
	RW:										, SL,						
											, BE,						
											, LU,						
					BF,	ВJ,	CF,	CG,	CI,	CM	, GA,	GN,	GQ,	GW,	ML,	MR,	ΝE,
			TD,	TG													
	1033										2003-						
	1644				A1		2006	0412		EP	2004-	7405	38		2	0040	701
EF	1644	1430			B1		2008	0827									
	R:	BE,	DE,	FR,	GB,	ΙT											
CN	1 1823	117			A		2006	0823		CN	2004-	8001	9805		2	0040	701
US	US 20070049718						2007	0301		US	2006-	5950	35		2	0060	109
PRIORIT	Y APE	LN.	INFO	. :						DE	2003-	1033	1288		A 2	0030	710
						WO	2004-	EP71	73		W 2	0040	701				

Phosphonate-modified polysiloxanes prepared by reacting of phosphonate-groupcontaining silanes alone or with alkoxysilanes and water are useful as additives (especially as antistatic additives) in elastomeres (especially in siloxane elastomers). Thus, a polymer prepared by hydrolytic polymerization of a mixture 12 g of dimethyldimethoxysilane and 25.6 g of di-Et ester of [(dimethoxymethylsilyl)methyl]phosphonic acid with 14.5 g of water and 3 weight% of HCl at 80° and 100 mbar (44 weight% of a cyclic part having mol. weight 650 and 56 weight% of a linear part having mol. weight 6,200) is useful as an antistatic additive in a mixture with a moisture-crosslinkable silicone (Elastosil).

122-52-1, Triethylphosphite 2212-11-5,

SO PCT Int. Appl., 23 pp. CODEN: PIXXD2

Chloromethyldimethoxymethylsilane 5926-26-1, Chloromethyltrimethoxysilane 15267-95-5,

Chloromethyltriethoxysilane 18143-33-4,

Chloromethyldimethylmethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(phosphonate-group-containing silane precursor; phosphonate-modified
polysiloxanes prepared by reacting of phosphonate-group-containing silanes
with alkoxysilanes useful as antistatic additives in elastomeres (especially
in siloxane elastomers))

RN 122-52-1 CAPLUS

CN Phosphorous acid, triethyl ester (CA INDEX NAME)

RN 2212-11-5 CAPLUS

CN Silane, (chloromethyl)dimethoxymethyl- (CA INDEX NAME)

RN 5926-26-1 CAPLUS

CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)

RN 15267-95-5 CAPLUS

CN Silane, (chloromethyl)triethoxy- (CA INDEX NAME)

RN 18143-33-4 CAPLUS

CN Silane, (chloromethyl) methoxydimethyl- (CA INDEX NAME)

IT 827615-74-7DP, reaction products with DimethylSilanediol and alkoxysilanes 327615-76-9P 927622-42-4P

RL: IMF (Industrial manufacture); PREP (Preparation) (phosphonate-modified polysiloxanes prepared by reacting of phosphonate-group-containing silanes with alkoxysilanes useful as antistatic additives in elastomeres (especially in siloxane elastomers))

RN 827615-74-7 CAPLUS

CN Phosphonic acid, [(methoxydimethylsilyl)methyl]-, diethyl ester (9CI) (CA INDEX NAME)

RN 827615-76-9 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with dimethoxydimethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8 CMF C8 H21 O6 P Si

$$\texttt{EtO} = \bigcup_{i=1}^{O} \texttt{CH}_2 = \bigcup_{i=1}^{OMe} \texttt{OMe}$$

CM 2

CRN 1112-39-6 CMF C4 H12 O2 Si

RN 827622-42-4 CAPLUS

CN Phosphonic acid, [(dimethoxymethylsilyl)methyl]-, diethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 827615-73-6 CMF C8 H21 O5 P Si

IT 827622-45-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(phosphonate-modified polysiloxanes prepared by reacting of phosphonate-group-containing silanes with alkoxysilanes useful as antistatic additives in elastomeres (especially in siloxane elastomers))

RN 827622-45-7 CAPLUS

CN Phosphonic acid, [(dimethoxymethylsilyl)methyl]-, diethyl ester, polymer with dimethoxydimethylsilane (9CI) (CA INDEX NAME)

CM

CRN 827615-73-6 CMF C8 H21 O5 P Si

CM 2

CRN 1112-39-6 CMF C4 H12 O2 Si

3

L12 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2005:58216 CAPLUS Full-text

DOCUMENT NUMBER: 142:156464

TITLE: Production of hydrolyzable phosphorus-containing

alkoxysilanes

INVENTOR(S): Schaefer, Oliver; Bauer, Andreas; Kriegbaum, Markus;

Rachl, Sandra

PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie GmbH,

Germany

SOURCE: PCT Int. Appl., 13 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	PATENT NO.						DATE		APPI	LICAT		DATE					
	2005	2005005440				A2 20050120				WO 2	2004-1						
WO	2005005440 W: AE, AG, AL,							D7	DD	DC.	DD	D1//	DV	D7	Ca	CH	
	W :																
											, EC,						
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	, J₽,	KΕ,	KG,	KΡ,	KR,	ΚZ,	LC,
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG	, MK,	MN,	MW,	MX,	MZ,	NA,	NI,
	NO, NZ, OM,		PG.	PH.	PL.	PT.	RO.	RU.	. SC.	SD.	SE.	SG.	SK.	SL.	SY.		
	TJ, TM, TN,																
	DW.										, SL,						
	KW:																
											, BE,						
		EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	IT,	, LU,	MC,	NL,	PL,	PT,	RO,	SE,
		SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	, GA,	GN,	GQ,	GW,	ML,	MR,	NE,
		SN.	TD.	TG													
DE	1033	1289			A1		2005	0217		DE :	2003-	1033	1289		2	0030	710
	1644				7.2		2006				2004-					0040	701
111					FIL		2000	0412		ш	2004	7405	55		-	0010	/ U I
		DE,													_		
US	2006	0247	409		A1		2006	1102		US :	2006-	5950.	36		2	0060	612
PRIORIT	Y APP	LN.	INFO	. :						DE :	2003-	1033	1289	- 2	A 2	0030	710
						WO :	2004-1	EP71	74	1	W 2	0040	701				

OTHER SOURCE(S): MARPAT 142:156464

SO PCT Int. Appl., 13 pp.

CODEN: PIXXD2

AR The invention relates to phosphorus-modified silanes containing at least one methoxy group and having the general formula R52P(0)-CR42-Si(R1)a(R2)3-a, where R1 groups are independently substituted or unsubstituted alkyl, alkenyl, cycloalkyl or aryl groups containing 1-18 carbon atoms, or alkoxy groups containing 2-18 carbon atoms; R2 is methoxy group; R4 groups are independently hydrogen, or alkyl, cycloalkyl or aryl groups containing 1-18 carbon atoms unsubstituted or substituted with fluoro, chloro, alkoxy, amine, cyanate or isocyanate groups; R5 groups are independently substituted or unsubstituted alkoxy or aryloxy groups containing 1-18 carbon atoms, or substituted or unsubstituted polyoxyalkylene containing 1-4000 carbon atoms; and a is an integer from 0 to 2; R1, R4, or R5 together can be a part of a cyclic compound The phosphorus-modified silanes are produced by reacting haloalkylsilanes with phosphites. The phosphorus-modified silanes can be used as components of antifreeze and coating compns., or for production of functionalized resins by cohydrolysis with alkoxysilanes. Thus, a phosphorus-modified silane of the formula EtO2P(O)-CH2-Si(Me)(OMe)2 was produced in 76% yield by adding slowly over 3 h under nitrogen chloromethyldimethoxymethylsilane (46.4 g, 0.3 mol) to

tri-Et phosphite (99.7 g, 0.6 mol) heated to 140° , reacting the mixture at 170° for 30 min, and removing tri-Et phosphite excess under vacuum.

IT 827615-76-9P
RL: IMF (Industrial manufacture); PREP (Preparation)

(production of hydrolyzable phosphorus-containing alkoxysilanes)

RN 827615-76-9 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with dimethoxydimethylsilane (9CI) (CA INDEX NAME)

CM

CRN 827615-75-8 CMF C8 H21 O6 P Si

CM 2

CRN 1112-39-6 CMF C4 H12 O2 Si

IT 827615-75-8P

RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (USes)

(production of hydrolyzable phosphorus-containing alkoxysilanes)

RN 827615-75-8 CAPLUS

CN Phosphonic acid, P-[(trimethoxysilyl)methyl]-, diethyl ester (CA INDEX NAME)

IT 827615-73-6P 827615-74-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(production of hydrolyzable phosphorus-containing alkoxysilanes)

- RN 827615-73-6 CAPLUS
- CN Phosphonic acid, P-[(dimethoxymethylsilyl)methyl]-, diethyl ester (CA INDEX NAME)

- RN 827615-74-7 CAPLUS
- CN Phosphonic acid, [(methoxydimethylsilyl)methyl]-, diethyl ester (9CI) (CA INDEX NAME)

- IT 123-52-1, Triethyl phosphite 2212-11-5 5926-26-1
 - 18143-33-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 - (production of hydrolyzable phosphorus-containing alkoxysilanes)
- RN 122-52-1 CAPLUS
- CN Phosphorous acid, triethyl ester (CA INDEX NAME)

- RN 2212-11-5 CAPLUS
- CN Silane, (chloromethyl)dimethoxymethyl- (CA INDEX NAME)

- RN 5926-26-1 CAPLUS
- CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)

RN 18143-33-4 CAPLUS

CN Silane, (chloromethyl)methoxydimethyl- (CA INDEX NAME)

L12 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 1976:17471 CAPLUS Full-text

DOCUMENT NUMBER: 84:17471

ORIGINAL REFERENCE NO.: 84:2903a,2906a

TITLE . Alkoxysilanes. XXV. (Iodoalkyl)trialkoxysilanes AUTHOR(S): Voronkov, M. G.; D'vakov, V. M.; Lukina, Yu. A.;

Samsonova, G. A.; Kudyakov, N. M. CORPORATE SOURCE: USSR

SOURCE:

Zhurnal Obshchei Khimii (1975), 45(9), 2010-13

CODEN: ZOKHA4; ISSN: 0044-460X Journal

LANGUAGE: Russian

Zhurnal Obshchei Khimii (1975), 45(9), 2010-13 CODEN: ZOKHA4: ISSN: 0044-460X

GI For diagram(s), see printed CA Issue.

Silanes I(CH2)nSi(OR)3 I (R = Me, Et; n = 1-3) were prepared by treating AB C1(CH2)nSi(OR)3 with NaI. Heating I with (HOCH2CH2)3N in KOH-C1Ph gave II. Arbuzov reaction of I with (R10)3P (R1 = alkyl) gave (R10)2P(0)(CH2)nSi(OR)3.

1762-10-3P IΤ

DOCUMENT TYPE:

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 1762-10-3 CAPLUS

CN Phosphonic acid, P-[(triethoxysilyl)methyl]-, diethyl ester (CA INDEX NAME)

5926-26-1 5926-27-2 15267-95-5 RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with potassium iodide)

RN 5926-26-1 CAPLUS

RN 5926-27-2 CAPLUS

CN Silane, (dichloromethyl)trimethoxy- (CA INDEX NAME)

RN 15267-95-5 CAPLUS

CN Silane, (chloromethyl)triethoxy- (CA INDEX NAME)

IT 122-52-1

RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with triethoxy(iodomethyl)silane)

RN 122-52-1 CAPLUS

CN Phosphorous acid, triethyl ester (CA INDEX NAME)

=> d his

(FILE 'HOME' ENTERED AT 19:38:35 ON 07 DEC 2008)

FILE 'REGISTRY' ENTERED AT 19:38:44 ON 07 DEC 2008 L1 STRUCTURE UPLOADED L2 40861 S L1 SSS FULL

L3 STRUCTURE UPLOADED L4

423 S L3 SSS FULL

```
STRUCTURE UPLOADED
1.5
L6
            24 S L5 SSS FULL
     FILE 'CAPLUS' ENTERED AT 19:40:22 ON 07 DEC 2008
1.7
         62589 S L2
1.8
           613 S L4
            26 S L6
L9
L10
             0 S L7 (L) L8
L11
            16 S L7 AND L8
L12
             6 S L11 AND L9
=> s silicon# (w) (polymer or oil or elastomer or fluid or rubber) or polysiloxane
or polyorganosiloxane or organopolysiloxane
       1018469 SILICON#
       1230888 POLYMER
       977392 POLYMERS
       1645438 POLYMER
                 (POLYMER OR POLYMERS)
       848685 OIL
        407091 OILS
       960795 OIL
                 (OIL OR OILS)
        48418 ELASTOMER
        36267 ELASTOMERS
        66986 ELASTOMER
                 (ELASTOMER OR ELASTOMERS)
        488355 FLUID
        201798 FLUIDS
        587146 FLUID
                 (FLUID OR FLUIDS)
       390238 RUBBER
        164034 RUBBERS
        478043 RUBBER
                 (RUBBER OR RUBBERS)
        59193 SILICON# (W) (POLYMER OR OIL OR ELASTOMER OR FLUID OR RUBBER)
        36957 POLYSILOXANE
        87269 POLYSILOXANES
        96939 POLYSILOXANE
                 (POLYSILOXANE OR POLYSILOXANES)
          2404 POLYORGANOSILOXANE
          1574 POLYORGANOSILOXANES
         3414 POLYORGANOSILOXANE
                 (POLYORGANOSILOXANE OR POLYORGANOSILOXANES)
          4228 ORGANOPOLYSTLOXANE
          2715 ORGANOPOLYSILOXANES
          5895 ORGANOPOLYSILOXANE
                 (ORGANOPOLYSILOXANE OR ORGANOPOLYSILOXANES)
1.13
      144247 SILICON# (W) (POLYMER OR OIL OR ELASTOMER OR FLUID OR RUBBER)
               OR POLYSILOXANE OR POLYORGANOSILOXANE OR ORGANOPOLYSILOXANE
=> s polydiorganosiloxane or diorganopolysiloxane or poly (w) oxy (w)
dimethylsilylene
           431 POLYDIORGANOSILOXANE
           226 POLYDIORGANOSILOXANES
          606 POLYDIORGANOSILOXANE
                 (POLYDIORGANOSILOXANE OR POLYDIORGANOSILOXANES)
           478 DIORGANOPOLYSILOXANE
          335 DIORGANOPOLYSILOXANES
           760 DIORGANOPOLYSILOXANE
                 (DIORGANOPOLYSILOXANE OR DIORGANOPOLYSILOXANES)
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756764 POLY
             2 POLIES
        756765 POLY
                (POLY OR POLIES)
         71389 OXY
            13 OXIES
         71401 OXY
                 (OXY OR OXIES)
          3984 DIMETHYLSILYLENE
           11 DIMETHYLSILYLENES
          3986 DIMETHYLSILYLENE
                 (DIMETHYLSILYLENE OR DIMETHYLSILYLENES)
          2585 POLY (W) OXY (W) DIMETHYLSILYLENE
          3923 POLYDIORGANOSILOXANE OR DIORGANOPOLYSILOXANE OR POLY (W) OXY
               (W) DIMETHYLSILYLENE
=> s polyoxydimethylsilylene or PDMS or polydimethylsiloxane or poly (w)
dimethylsiloxane
             8 POLYOXYDIMETHYLSILYLENE
          9583 PDMS
         17185 POLYDIMETHYLSILOXANE
          1075 POLYDIMETHYLSILOXANES
         17688 POLYDIMETHYLSILOXANE
                 (POLYDIMETHYLSILOXANE OR POLYDIMETHYLSILOXANES)
        756764 POLY
             2 POLIES
        756765 POLY
                 (POLY OR POLIES)
         14561 DIMETHYLSILOXANE
         1445 DIMETHYLSILOXANES
         15270 DIMETHYLSILOXANE
                 (DIMETHYLSILOXANE OR DIMETHYLSILOXANES)
         9566 POLY (W) DIMETHYLSILOXANE
         27943 POLYOXYDIMETHYLSILYLENE OR PDMS OR POLYDIMETHYLSILOXANE OR POLY
               (W) DIMETHYLSILOXANE
=> d his
     (FILE 'HOME' ENTERED AT 19:38:35 ON 07 DEC 2008)
    FILE 'REGISTRY' ENTERED AT 19:38:44 ON 07 DEC 2008
                STRUCTURE UPLOADED
          40861 S L1 SSS FULL
               STRUCTURE UPLOADED
           423 S L3 SSS FULL
                STRUCTURE UPLOADED
             24 S L5 SSS FULL
     FILE 'CAPLUS' ENTERED AT 19:40:22 ON 07 DEC 2008
         62589 S L2
           613 S L4
             26 S L6
             0 S L7 (L) L8
             16 S L7 AND L8
             6 S L11 AND L9
L13
        144247 S SILICON# (W) (POLYMER OR OIL OR ELASTOMER OR FLUID OR RUBBER)
          3923 S POLYDIORGANOSILOXANE OR DIORGANOPOLYSILOXANE OR POLY (W) OXY
         27943 S POLYOXYDIMETHYLSILYLENE OR PDMS OR POLYDIMETHYLSILOXANE OR PO
```

T.14

L15

L1 L2

L3

L4

1.5

L6

L7

L8

L9

L10

L11 L12

L14

L15

```
L16 157652 L13 OR L14 OR L15
=> s phosphonate
        27023 PHOSPHONATE
         10736 PHOSPHONATES
         31141 PHOSPHONATE
                 (PHOSPHONATE OR PHOSPHONATES)
=> s L16 (L) L17
          103 L16 (L) L17
L18
=> s his
L19
        71773 HIS
=> d his
     (FILE 'HOME' ENTERED AT 19:38:35 ON 07 DEC 2008)
     FILE 'REGISTRY' ENTERED AT 19:38:44 ON 07 DEC 2008
                STRUCTURE UPLOADED
T. 2
          40861 S L1 SSS FULL
L3
                STRUCTURE UPLOADED
L4
            423 S L3 SSS FULL
L5
                STRUCTURE UPLOADED
L6
             24 S L5 SSS FULL
     FILE 'CAPLUS' ENTERED AT 19:40:22 ON 07 DEC 2008
1.7
          62589 S L2
L8
            613 S L4
1.9
             26 S L6
             0 S L7 (L) L8
L10
             16 S L7 AND L8
L11
L12
             6 S L11 AND L9
L13
        144247 S SILICON# (W) (POLYMER OR OIL OR ELASTOMER OR FLUID OR RUBBER)
L14
          3923 S POLYDIORGANOSILOXANE OR DIORGANOPOLYSILOXANE OR POLY (W) OXY
L15
         27943 S POLYOXYDIMETHYLSILYLENE OR PDMS OR POLYDIMETHYLSILOXANE OR PO
L16
        157652 S L13 OR L14 OR L15
L17
         31141 S PHOSPHONATE
L18
           103 S L16 (L) L17
L19
          71773 S HIS
=> s L12 and L18
L20
            3 L12 AND L18
=> d 1-3 ibib so abs hitstr
L20 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:
                        2006:273682 CAPLUS Full-text
DOCUMENT NUMBER:
                         144:333109
TITLE:
                        Hydrophobic treatment of substrates with
                         phosphonate-modified polysilozanes
                        Sandmeyer, Frank; Bockholt, Andreas; Gollwitzer,
INVENTOR(S):
                         Leonhard
PATENT ASSIGNEE(S):
                        Wacker Chemie A .- G., Germany
SOURCE:
                         Ger. Offen., 9 pp.
                         CODEN: GWXXBX
DOCUMENT TYPE:
                        Patent
LANGUAGE:
                         German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102005046704 PRIORITY APPLN. INFO.:	A1	20060323	DE 2005-102005046704 DE 2005-102005046704	20050929 20050929

SO Ger. Offen., 9 pp.

CODEN: GWXXBX

AB Phosphonate-modified polysilozanes prepared by reacting phosphonate-groupcontaining silanes alone or with alkoxysilanes and water are useful as hydrophobizing agents for cements and concrete. Thus, diethylphosphonatomethyltrimethoxysilane-

methyl(dimethoxy)(aminopropylaminoethyl)silane copolymer prepared by cohydrolysis of the two monomers was used coating (brushing) onto cement fibers with d. 200 g/m2 providing the surfaces with water-repellent properties.

IT 122-52-1, Triethylphosphite 5926-26-1,

Chloromethyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent) (phosphonate-modified polysiloxane precursor;

phosphonate-modified polysiloxanes prepared by reacting of phosphonate-group-containing silanes alone or with

alkoxysilanes and water used as hydrophobizing agents for cements and concrete)

RN 122-52-1 CAPLUS

CN Phosphorous acid, triethyl ester (CA INDEX NAME)

RN 5926-26-1 CAPLUS

CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)

IT 880128-19-3P 880123-21-2P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (phosphonate-modified polysilozanes prepared by reacting of phosphonate-group-containing silanes alone or with alkoxysilanes and water used as hydrophobizing agents for cements and concrete)

880128-19-8 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with trimethoxymethylsilane (9CI) (CA INDEX NAME)

CM 1

RN

CRN 827615-75-8

CMF C8 H21 O6 P Si

CM 2

CRN 1185-55-3 CMF C4 H12 O3 Si

RN 880128-21-2 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with trimethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8 CMF C8 H21 O6 P Si

CM 2

CRN 2487-90-3 CMF C3 H10 O3 Si

IT 280128-20-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT

(Reactant or reagent)

(phosphonate-modified polysiloxanes prepared by

reacting of phosphonate-group-containing silanes alone or with alkoxysilanes and water used as hydrophobizing agents for cements and

concrete)

RN 880128-20-1 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethyl ester, polymer with N-[2-(dimethoxymethylsilyl)ethyl]-1,3-propanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8

CMF C8 H21 O6 P Si

CM 2

CRN 160888-91-5 CMF C8 H22 N2 O2 Si

L20 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2005:451447 CAPLUS Full-text
DOCUMENT NUMBER: 142:482806

TITLE: Production of organosiloxanes modified by phosphonate

ester groups Schaefer, Oliver; Luckas, Hans-Joachim

INVENTOR(S): Schaefer, Oliver; Luckas, Hans-Joachim
PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie G.m.b.H.,

Germany

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE WO 2005047368 A1 20050526 WO 2004-EP12201 20041028

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW. AM. AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG DE 10351803 A1 20050609 DE 2003-10351803 20031106 20060712 EP 2004-790971 20041028 EP 1678240 A1 R: BE, DE, FR, GB, NL CN 1875053 A 20061206 CN 2004-80032721 20041028 20070517 JP 2006-538708 JP 2007512395 T 20041028 US 20070167597 A1 20070719 US 2006-595701 20060505 PRIORITY APPLN. INFO.: DE 2003-10351803 A 20031106 WO 2004-EP12201 W 20041028

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

AB The title polymers, which can be prepared readily using com. available compds., are prepared by the reaction of phosphonate esters bearing silyl groups with siloxanes. Adding 0.3 mol (chloromethyl)dimethoxymethylsilane over 3 h to 0.6 mol P(OEt)3 at 140° with strong stirring, heating at 170° for 30 min, and distilling excess P(OEt)3 in vacuo gave 58.6 g di-Et [(dimethoxymethylsilyl)methyl]phosphonite (I). Adding 220 g polydimethylsiloxane diol (mol. weight 1100) over 10 min to 26.1 g I and 0.5% iso-Pr phosphate (catalyst) at 60° with strong stirring and heating at 80° for 2 h gave 239 g phosphonate group-containing block copolymer with number-

IT 852213-16-2P 852213-17-3P 852213-18-4P

average mol. weight 2500.

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (actual and assumed monomers; production of organosiloxanes modified by phosphonate ester groups)

852213-16-2 CAPLUS

CN Phosphonic acid, [(dimethoxymethylsilyl)methyl]-, diethyl ester, polymer with dimethylsilanediol, block (9CI) (CA INDEX NAME)

CM 1

RN

CRN 827615-73-6 CMF C8 H21 O5 P Si

CM 2

CRN 1066-42-8 CMF C2 H8 O2 Si

RN 852213-17-3 CAPLUS

CN Phosphonic acid, [(methoxydimethylsilyl)methyl]-, diethyl ester, polymer with dimethylsilanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 827615-74-7 CMF C8 H21 O4 P Si

$$\texttt{Et0} = \texttt{CH}_2 - \texttt{Si-Me}$$

$$\texttt{Et} = \texttt{Me}$$

CM 2

CRN 1066-42-8 CMF C2 H8 O2 Si

RN 852213-18-4 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethy1 ester, polymer with dimethy1silanedio1, block (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8 CMF C8 H21 O6 P Si

$$\texttt{EtO-} \overset{\texttt{O}}{\underset{\texttt{DEt}}{\text{I}}} - \texttt{CH}_2 - \overset{\texttt{OMe}}{\underset{\texttt{OMe}}{\text{I}}} - \texttt{OMe}$$

CM 2

CRN 1066-42-8 CMF C2 H8 O2 Si

IT 827615-73-6P 827615-74-7P 827615-75-8P RL: IMF (Industrial manufacture); PREP (Preparation)

(preparation) RN 827615-73-6 CAPLUS

CN Phosphonic acid, P-[(dimethoxymethylsilyl)methyl]-, diethyl ester (CA INDEX NAME)

RN 827615-74-7 CAPLUS

CN Phosphonic acid, [(methoxydimethylsilyl)methyl]-, diethyl ester (9CI) (CA INDEX NAME)

Eto-
$$\int_{0}^{0}$$
 CH₂- \int_{Me}^{0} Me

RN 827615-75-8 CAPLUS

CN Phosphonic acid, P-[(trimethoxysily1)methy1]-, diethy1 ester (CA INDEX NAME)

IT 122-52-1, Triethyl phosphite 2212-11-5,
 (Chloromethyl)dimethoxymethylsilane 5926-26-1,

(Chloromethyl)trimethoxysilane 18143-33-4,

(Chloromethyl) methoxydimethylsilane

RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of tri-Et phosphite with (chloromethyl)silanes)

122-52-1 CAPLUS RN

CN Phosphorous acid, triethyl ester (CA INDEX NAME)

RN 2212-11-5 CAPLUS

CN Silane, (chloromethyl)dimethoxymethyl- (CA INDEX NAME)

RN 5926-26-1 CAPLUS

CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)

RN 18143-33-4 CAPLUS

CN Silane, (chloromethyl) methoxydimethyl- (CA INDEX NAME)

DOCUMENT NUMBER:

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN ACCESSION NUMBER: 2005:58269 CAPLUS Fuli-text 142:156528

TITLE: Method for producing phosphonate-modified silicones. INVENTOR(S): INVENTOR(S): Schaefer, Oliver; Luckas, Hans-Joachim; Rachl, Sandra PATENT ASSIGNEE(S): Consortium fuer Elektrochemische Industrie GmbH, Germany

SOURCE: PCT Int. Appl., 23 pp. CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

		TENT						DATE				LICAT	DATE					
	WO	0 2005005519																
		W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB	, BG,	BR,	BW,	BY,	BZ,	CA,	CH,
			CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ	, EC,	EE,	EG,	ES,	FI,	GB,	GD,
			GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS	, JP,	KE,	KG,	KP,	KR,	KZ,	LC,
			LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG	, MK,	MN,	MW,	MX,	MZ,	NA,	NI,
			NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU	, SC,	SD,	SE,	SG,	SK,	SL,	SY,
			TJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US	, UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW
		RW:	BW,	GH,	GM,	KE,	LS,	MW,	MZ,	NA,	SD	, SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,
			AZ,	BY,	KG,	KZ,	MD,	RU,	TJ,	TM,	AT	, BE,	BG,	CH,	CY,	CZ,	DE,	DK,
			EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,	IT	, LU,	MC,	NL,	PL,	PT,	RO,	SE,
			SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM	, GA,	GN,	GQ,	GW,	ML,	MR,	NE,
			SN,	TD,	TG													
	DE	1033	1288			A1 20050217				DE 2003-10331288					20030710			
	EP	1644	430			A1		2006	0412		EP	2004-	7405	38		20040701		
	EP	1644	430			B1		2008	0827									
		R:	BE,	DE,	FR,	GB,	IT											
	CN	1823	117			A		2006	0823		CN	2004-	8001	9805		2	0040	701
	US	2007	0049	718		A1		2007	0301		US	2006-	5950	35		2	0060	109
PRIO	RIORITY APPLN. INFO.:										DE	2003-	1033	1288		A 2	0030	710
											WO	2004-	EP71	73	1	W 2	0040	701

SO PCT Int. Appl., 23 pp. CODEN: PIXXD2

AΒ Phosphonate-modified polysiloxanes prepared by reacting of phosphonate-groupcontaining silanes alone or with alkoxysilanes and water are useful as additives (especially as antistatic additives) in elastomeres (especially in siloxane elastomers). Thus, a polymer prepared by hydrolytic polymerization of a mixture 12 g of dimethyldimethoxysilane and 25.6 g of di-Et ester of [(dimethoxymethylsilyl)methyl]phosphonic acid with 14.5 q of water and 3 weight% of HCl at 80° and 100 mbar (44 weight% of a cyclic part having mol. weight 650 and 56 weight% of a linear part having mol. weight 6,200) is useful as an antistatic additive in a mixture with a moisture-crosslinkable silicone (Elastosil).

IT 123-52-1. Triethylphosphite 2212-11-5.

Chloromethyldimethoxymethylsilane 5926-26-1,

Chloromethyltrimethoxysilane 15267-95-5,

Chloromethyltriethoxysilane 18143-33-4,

Chloromethyldimethylmethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(phosphonate-group-containing silane precursor;

phosphonate-modified polysiloxanes prepared by reacting

of phosphonate-group-containing silanes with alkoxysilanes useful as antistatic additives in elastomeres (especially in siloxane elastomers))

RN 122-52-1 CAPLUS

Phosphorous acid, triethyl ester (CA INDEX NAME)

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RN 2212-11-5 CAPLUS
CN Silane, (chloromethyl)dimethoxymethyl- (CA INDEX NAME)
RN 5926-26-1 CAPLUS
CN Silane, (chloromethyl)trimethoxy- (CA INDEX NAME)
MeO-Si-CH2Cl
RN 15267-95-5 CAPLUS
CN Silane, (chloromethyl)triethoxy- (CA INDEX NAME)
Eto_Si_CH2Cl
RN 18143-33-4 CAPLUS
CN Silane, (chloromethyl) methoxydimethyl- (CA INDEX NAME)
Me_Si_CH2Cl
IT 837615-74-7DP, reaction products with DimethylSilanediol and
    alkoxysilanes 327615-76-3P 827622-42-4P
    RL: IMF (Industrial manufacture); PREP (Preparation)
       (phosphonate-modified polysiloxanes prepared by
       reacting of phosphonate-group-containing silanes with
       alkoxysilanes useful as antistatic additives in elastomeres (especially in
       siloxane elastomers))
RN
    827615-74-7 CAPLUS
CN
    Phosphonic acid, [(methoxydimethylsilyl)methyl]-, diethyl ester (9CI) (CA
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INDEX NAME)

$$\texttt{EtO} = \bigcup_{\mathsf{E}=1}^{\mathsf{OMe}} - \mathsf{CH}_2 = \bigcup_{\mathsf{Me}}^{\mathsf{OMe}} - \mathsf{Me}$$

RN 827615-76-9 CAPLUS

CN Phosphonic acid, [(trimethoxysily1)methy1]-, diethy1 ester, polymer with dimethoxydimethy1silane (9CI) (CA INDEX NAME)

CM 1

CRN 827615-75-8 CMF C8 H21 O6 P Si

CM 2

CRN 1112-39-6 CMF C4 H12 O2 Si

RN 827622-42-4 CAPLUS

CN Phosphonic acid, [(dimethoxymethylsilyl)methyl]-, diethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 827615-73-6 CMF C8 H21 O5 P Si

IT \$27622-45-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(phosphonate-modified polysiloxanes prepared by reacting of phosphonate-group-containing silanes with alkoxysilanes useful as antistatic additives in elastomeres (especially in siloxane elastomers))

RN 827622-45-7 CAPLUS

CN Phosphonic acid, [(dimethoxymethylsilyl)methyl]-, diethyl ester, polymer with dimethoxydimethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 827615-73-6 CMF C8 H21 O5 P Si

CM 2

CRN 1112-39-6 CMF C4 H12 O2 Si

REFERENCE COUNT:

3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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